

Weekly Report

July 1st, 2018

Done:

1. I had two discussions with Chris Bryan and Prof. Ma respectively. I introduced the slides to both of them and received some feedback. The scope is narrowed down to design and layout of users' vis results while using VA systems (visually organize and summary).
 - Take screenshots (when, what?)
 - How to layout them as well as encode more context information(to show the semantics like correlations)? How to keep the mental map, how to enable a better review experience?
 - Whether we need to record the provenance of user interactions? Depends on my future design.
 - The summary supports editing while reviewing.
2. Further compression of bundle size via external some libs of the fire data system; Modified the data structure so that the system is adapted to Max's API; assisted in debugging Annie's code.
3. My thought about 论文写作套路: 分为两部分, 一部分是一些诸如 Tamara 写的宏观指导性的文章, 比较高层, 既有可视分析项目构建思路、又兼具论文构思的文章, 需要提炼; 另一部分是从一篇篇文章入手, 分析文章结构的异同, 提炼归纳其特点. Further discussion with Zhaosong will be a more detailed arrangement.

To Do:

1. Based on the two survey papers on narrative vis, and the provenance papers I read recently as well as some design-based papers, I will try to figure out several designs, and talk to Prof. Ma if the ideas are feasible.
2. A discussion with Zhaosong about 论文套路.
3. Reorganization the framework of 研究生素质 ppt slides (brief talk with Yuxin).

Paper reading:

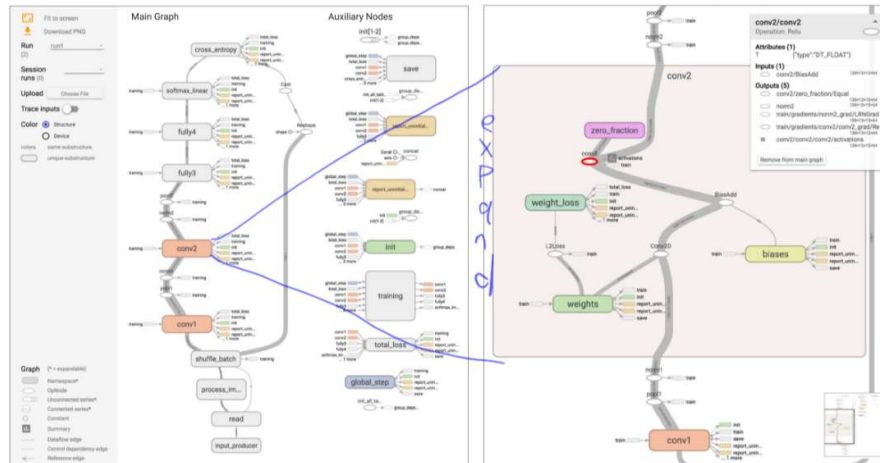
1 **VAST2008** *Characterizing Users' Visual Analytic Activity for Insight Provenance* 这是一篇很老的文章, 但是其思路很不错. provenance vis 常常要么是展现最底层操作, 要么就依赖用户 notes, 本文结合这两种特点, 并通过对一些 VA 系统的分析, 进行组合与拔高, 将用户行为语义化定义为 actions, 并做进一步细分. 有点类似于构建一套 insight provenance 的语法, 并结合了语义信息. 奇怪的是这个文章对其自己做的 prototype 没有任何细致描述网上也没有.

2 **InfoVis2017** *Bridging From Goals to Tasks with Design Study Analysis Reports* Tamara 一篇关于 design study 类型文章的宏观指导. 以后我们设计时可以借鉴他这样一套思路, 将 analysis goal 具象化为两个轴:

Spec\#Pops	Explore	Describe	Explain	Confirm
Single	Discover Observation I: Data only O: Obs (Item or Aggregate)	Describe Observation (Item) I: Obs (Item) O: Pop Defn (all attributes) Describe Observation (Aggregate) I: Obs (Aggregate) O: Pop Defn (all attributes)	Identify Main Cause (Item) I: Obs (Item) O: Pop Defn (dominant attribute) Identify Main Cause (Aggregate) I: Obs (Aggregate) O: Pop Defn (dominant attribute)	Collect Evidence I: Hypothesis O: Confirm / Reject
Multiple		Compare Entities I: Pop Defn O: Pop Contrasts (similarities and differences)	Explain Differences I: Pop Defn O: Pop Contrasts (differences)	Evaluate Hypothesis I: Pop Defn; Hypothesis O: Confirm / Reject

3 **VIS2013** *An Extensible Framework for Provenance in Human Terrain Visual Analytics* 也是叙事可视化的一篇文章, 写的有点晦涩, 但大致意思是利用类似简单的 ontology 思路概述-组织分析时遇到的各种数据, 用 state 标记存储每个操作的状态, 用 bookmarks 作为用户 annotation 工具(上面编码各种信息帮助用户回忆这个操作). 是可以借鉴的一个小点.

4 **VIS2017** *Visualizing Dataflow Graphs of Deep Learning Models in TensorFlow* 这又是一篇优雅的用户操作 provenance history simplification 的力作, 它简化的是 tensorflow 搭建网络的流程图. 这个简化过程考虑了多种因素, 比如重复模块, 高连接度数但其实比较次要却引起 clutter 的模块. 次要模块. 按需隐藏/显示细节等等, 很优雅. 但是不少操作仍然是 heuristic rule-based.



5 **CHI2018** *InfoNice: Easy Creation of Information Graphics* 屈老师那边一个点很小的设计: 将简单的 charts 转换为 infographics. 他们 infographics 里面用到的 visual elements 限定于文字 图像和 icon 三种, 然后提供交互帮助设计这些 infographics, 很小巧的创新, 但也很实用, 他们已经在 powerBI 上有提供用户使用.

